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STAR TRACKER

The Redwire Star Tracker is intended for orbits that have a typical design life of 5 years and is ideal for CubeSat and NanoSat missions due to its small size, weight and power (SWaP). The unit is completely selfcontained and features Lost in Space star identification. When power is applied, you begin receiving quarternions accurate to 10 arcsec at 4 Hz rate, and a maximum tracking rate >2° degrees per second.



Leveraging its heritage in producing advanced star trackers and compliant with the Buy America Act, Redwire's low-cost, high-performance Star Tracker is a COTS component supporting commercial, civil, and defense missions.

APPLICATIONS

+ Attitude Awareness & Positional Knowledge

DARAMETERS

10 ARCSEC / 27 ARCSEC*
Accuracy (Cross Axis / Boresight)
> 2.0°/SEC

Max Tracking Rate

4 HZ

Update Rate

1889 STARS (6 VM)

Star Catalog

* 10 arcsec is a test capability. The accuracy is <6 arcsec.

22 mm APERTURE, F/0.77 BK7 GLASS

16.2 mm

Focal Length

-30° TO 55° C

Operating Temperature

55 X 65 X 70

Dimensions L x W x H (mm) w/Baffle

45°

Sun Exclusion w/ Baffle

475 GRAMS

Mass (Baffle & Star Tracker)

5.0 V

DC Voltage

2.0 W LIS, 1.5 W TRACK

Average power consumption

RS-422

Serial Interface

21.1 mm

Aperture





MADE IN THE USA

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MISSION HERITAGE

+ The Star Tracker is TRL9 (flight heritage available upon request)

ABOUT STAR TRACKERS

- Typical design life is 5 years (based on each specific mission), 25% duty cycle.
- + Sky coverage >99%
- + AFOV is 19° x 14°

Redwire's compact and autonomous Star Tracker is ruggedized, radiation tested, optimized for low weight (475 grams, including baffle, and star tracker), small size (55 x 65 x 70 mm), and low power consumption (< 2.0W) with a design life > 5 years in Low Earth Orbit (LEO).

The Star Tracker's processing unit, including an advanced star-tracking algorithm, records the accurate measurement of your spacecraft mission's position during orbit for optimum real-time attitude determination, and accounts for interference effects of light reflecting from the satellite's surfaces and exhaust plumes during propulsion sequences.

While 50-60 main navigational stars are primarily used to determine a satellite's position, the minimum number of catalog stars visible in any stationary image of arbitrary attitude (free of Earth, Sun, or Moon blockage) will be at least 7 and more typically 10 or 11 stars.

Star Trackers are export controlled through an ECCN (Export Control Classification Number) issued by the United States Department of Commerce. Export shipment requires successful application for an export license (under ECCN7A004 for Redwire SpectraCAM Flight Cameras)

For more information about our space capabilities,

CONTACT REDWIRE SPACE SALES



HERITAGE

Redwire is a new leader in mission critical space solutions and high reliability components for the next generation space economy. With decades of flight heritage combined with the agile and innovative culture of a commercial space platform, Redwire is uniquely positioned to assist its customers in solving the complex challenges of future space missions. For more information, please visit **www.redwirespace.com**.

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